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10/662,763

09/15/2003

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EXAMINER

GEBRIEL, SELAM T

ART UNIT

PAPER NUMBER

2622

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/662,763	Applicant(s) STALLER, NORMAN D.	
	Examiner SELAM GEBRIEL	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/24/2009 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1 – 30 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1 – 3, 7, 8, 11, 12, 16 – 19, 23, 24 and 27 - 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu (US 5,049,911) in view of Whiteside (US 2001/0031142 A1).**

Regarding claim 1, Shimizu discloses an electronic camera (Figure 1, Col 2 Line 51 - 53), comprising:

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An electronic image capture device (CCD imaging device 10) adapted for capturing an image scene (Col 2 Lines 57 – 58);

A photocell (Photosensor 16) adapted for sensing light energy received from said image scene (Col 2 Line 63 – 64);

A scanning aperture shutter (An aperture and shutter 14 having aperture blades and shutter blades and shutter drive circuit 24) located to control light energy received by said electronic image capture device and the photocell (Col 2 Line 60 – 62 and Col 3 Line 1 – 10); and

An exposure control system (Control unit 20, Col 3 Line 1 – 10) responsive to said photocell (Photosensor 16) and operatively connected to said scanning aperture shutter (Aperture and shutter 14), Wherein said exposure control system is adapted to control said scanning aperture shutter (Col 3 Line 1 – 10, “The control unit 20 carries out an AE calculation to obtain an aperture value (A_v) and a shutter speed (T_v), and when a release switch 22 is turned ON, the control unit 20 drives the aperture and shutter unit 14 through an aperture and shutter drive circuit 24, in accordance with the A_v value and the T_v value. Note that the control unit 20 is provided with a function by which system control is carried out for the operation of the whole camera, in addition to the AE calculation and the drive for the aperture and shutter unit 14’) and

Shimizu does not explicitly disclose the exposure control system or the control unit 20 adapted to control a flash unit in response to sensed light energy at said photocell to control a variable amount of fill flash energy received by said electronic image capture device in relation to ambient light energy received by said electronic

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image capture device during image capture and light sensor unit varying an aperture size of said scanning aperture shutter and controlling said flash unit so that said electronic image capture device receives a predetermined ratio of variable fill flash energy to ambient light energy during image capture.

. Whiteside discloses a filter assembly 460 is rotationally mounted on a shaft 461 within the housing 402 before the lens assembly 410 and is biased by a torsion spring 470 to rest against a segment 412 of the housing assembly 402, whereby a visible light pass filter element 462 is positioned to be in overlying relationship to an aperture 424. During a pre-exposure to obtain the scene brightness mapping, the image sensor 442 is enabled and the visible pass filter element 462 allows **visible light from the scene to be passed to the sensor**, whereby scene brightness measurements for each image sensing region of the sensor can be achieved. These image sensing regions of the sensor, of course, correspond to scene portions that are to be sensed for establishing the scene brightness map. The signals from the sensor are forwarded to a system controller (not shown). To effect a range determining function while still in the pre-exposure mode, **the aperture/lens disc 420 is rotated in a counterclockwise direction**, whereby a tab 423 on the disc drives the filter assembly 460 against the bias of the spring so that an infrared pass filter element 464 is placed in overlying relationship to the CCD image sensor 442, while the aperture 424 is now in overlying relationship to the image sensor. In this step, the image sensor 442 can be operated in a low resolution mode for determining a range map distinguishing subject areas relative to the non-subject areas. The flash is operated to illuminate the scene and the resulting

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reflected scene brightness will pass through the IR pass filter 464 to the sensor 442;

whereby range information for each sensor region can be determined consistent with

the wink IR ranging technique described in commonly-assigned U.S. Pat. No.

4,785,322. Also, the present invention envisions the use of differently configured image

acquisition modules with a variety of techniques for presenting an IR filter over such a

module, such as by moving an IR filter in front of the acquisition module by means of a

stepper motor or solenoid. A system controller (not shown) includes a logic circuit board

includes a micro-controller circuit that which receives electrical signals from the various

camera elements and, in turn, controls operation of the stepper motor and the CCD as

well as strobe and camera shutter mechanism logic circuit board. The logic circuit

board includes a microprocessor that is operable for decoding signals from, for

instance, the sensor for the scene brightness and range determining steps during

different modes of operation. The logic circuit includes a conventional, electronically

erasable memory section which includes appropriate numbers of look-up tables, each of

which employ combinations of the exposure parameters of subject range, flash mode

selection, pre-exposure scene brightness information to define the desired memory cell

address. The present invention contemplates establishing the scene brightness and

ranging maps, as well as comparing the maps to provide a relationship between the two

that controls the strobe firing intervals for each and every combination of the scene

brightness and ranging maps. The logic circuit will control when the strobe will be fired

and quenched during an exposure cycle so that a desired fill flash ratio between

ambient and flash is maintained despite wide variances in scene lighting and subject

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ranges that exist. A system controller (not shown) includes a logic circuit board includes a micro-controller circuit that which receives electrical signals from the various camera elements and, in turn, controls operation of the stepper motor and the CCD as well as strobe and camera shutter mechanism logic circuit board. The logic circuit board includes a microprocessor that is operable for decoding signals from, for instance, the sensor for the scene brightness and range determining steps during different modes of operation. The logic circuit includes a conventional, electronically erasable memory section which includes appropriate numbers of look-up tables, each of which employ combinations of the exposure parameters of subject range, flash mode selection, pre-exposure scene brightness information to define the desired memory cell address. The present invention contemplates establishing the scene brightness and ranging maps, as well as comparing the maps to provide a relationship between the two that controls the strobe firing intervals for each and every combination of the scene brightness and ranging maps. The logic circuit will control when the strobe will be fired and quenched during an exposure cycle so that a desired fill flash ratio between ambient and flash is maintained despite wide variances in scene lighting and subject ranges that exist (Page 3 Sections 32 and 33)

Therefore it would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the exposure control system of Shimizu as to control a flash unit in response to sensed light energy at said photocell to control a variable amount of fill flash energy received by said electronic image capture device in relation to ambient light energy received by said electronic image capture device during image

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capture with an exposure system control system as taught in Whiteside. The motivation to do so is that to illuminate the scene directly to soften dark shadows caused by downwardly directed light or to balance the illumination in scenes having high lighting contrasts, such as daylight photography where the primary subject is situated in a shadow.

Regarding claim 2, Shimizu in view of Whiteside further discloses the camera of claim 1, wherein said exposure control system is adapted to illuminate said flash unit once a predetermined amount of ambient light energy is sensed by said photocell (Whiteside, Page 3 Section 0033, The logic circuit will control when the strobe will be fired and quenched during an exposure cycle so that a desired fill flash ratio between ambient and flash is maintained despite wide variances in scene lighting and subject ranges that exist).

Regarding claim 3, Shimizu in view of Whiteside further discloses the camera of claim 2, wherein said exposure control system is adapted to extinguish said flash unit once a predetermined amount of infrared spectrum energy is sensed by said photocell during flash unit illumination (Whiteside, Page 3 Section 0033, The logic circuit will control when the strobe will be fired and quenched during an exposure cycle so that a desired fill flash ratio between ambient and flash is maintained despite wide variances in scene lighting and subject ranges that exist).

Regarding claim 7, Shimizu in view of Whiteside further discloses the camera of claim 1, wherein said flash unit is constructed integrally with said camera (Whiteside, See Figure 1 Flash 103, the flash is integral with the camera).

Regarding claim 8, Claim 8 is rejected under claims 1 – 3.

Regarding claim 11, Claim 11 is rejected under claims 1 – 3.

Regarding claim 12, the method of claim 12 is rejected under the apparatus of claims 1 and 2.

Regarding claim 16, the method of claim 16 is rejected under the apparatus of claims 1 – 3.

Regarding claim 17, Claim 17 is rejected under claim 1.

For the independent claim 17 and for all its dependent claims, Image capturing means for is equivalent to image capturing devices of claim 1. Light control means for is equivalent to scanning aperture shutter of claim 1. Light sensing means for is equivalent to photocell unit of claim 1. Exposure control means for is equivalent to exposure control system of claim 1. Means for discharging a flash of light is equivalent to flash unit of claim 1.

Regarding claim 18, Claim 18 is rejected under claim 17 and claims 1 and 2.

Regarding claim 19, Claim 19 is rejected under claims 17 and 18 and claims 1 and 2.

Regarding claim 23, Claim 23 is rejected under claim 17 and claims 1 and 7.

Regarding claim 24, Claim 24 is rejected under claims 1 and 3.

For the independent claim 24 and for all its dependent claims, electronic image capturing means for is equivalent to image capturing devices of claim 1. Light control means for is equivalent to scanning aperture shutter of claim 1. Light sensing means for is equivalent to photocell unit of claim 1. Exposure control means for is equivalent to

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exposure control system of claim 1. Means for discharging a flash of light is equivalent to flash unit of claim 1.

Regarding claim 27, Claim 27 is rejected under claim 24 and claims 1, 2, and 3.

Regarding claim 28, Claim 28 is rejected under claims 1.

For the independent claim 28, electronic image capturing means for is equivalent to image capturing devices of claim 1. Light control means for is equivalent to scanning aperture shutter of claim 1. Light sensing means for is equivalent to photocell unit of claim 1. Exposure control means for is equivalent to exposure control system of claim 1. Means for discharging a flash of light is equivalent to flash unit of claim 1.

Regarding claim 29, the method of claim 29 is rejected under the apparatus of claims 1, 2, and 3.

For the independent claim 29, electronic image capturing means for is equivalent to image capturing devices of claim 1. Light control means for is equivalent to scanning aperture shutter of claim 1. Light sensing means for is equivalent to photocell unit of claim 1. Exposure control means for is equivalent to exposure control system of claim 1. Means for discharging a flash of light is equivalent to flash unit of claim 1.

Regarding claim 30, Claim 30 is rejected under claims 1, 2, and 3.

For the independent claim 30, electronic image capturing means for is equivalent to image capturing devices of claim 1. Light control means for is equivalent to scanning aperture shutter of claim 1. Light sensing means for is equivalent to photocell unit of

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claim 1. Exposure control means for is equivalent to exposure control system of claim 1.

Means for discharging a flash of light is equivalent to flash unit of claim 1.

5. Claims 4, 5, 9, 10, 13 - 15, 20, 21, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu (US 5,049,911) in view of Whiteside (US 2001/0031142 A1) in further view of Farrington (US 4,941,011).

Regarding claim 4, Shimizu in view of Whiteside disclose camera of claim 1 having a photocell.

Shimizu in view of Whiteside does not explicitly discloses a photocell includes a visible spectrum photocell and an infrared spectrum photocell and further wherein, Said exposure control system is adapted to use said visible spectrum photocell to sense ambient light energy received from said image scene prior to illumination by said flash unit and to use said infrared photocell for sensing infrared spectrum energy received from said image scene during illumination by said flash unit

Farrington discloses a photocell (Figure 1, Element 32 and 28) includes a visible spectrum photocell (A visible light photodetector 30, Col 3,) and an infrared spectrum photocell (An infrared photodetector 26), and further wherein, Said exposure control system (Figure 1 Exposure Control Electronic Module 48) is adapted to use said visible spectrum photocell to sense ambient light energy received from said image scene prior to illumination by said flash unit and to use said infrared photocell for sensing infrared spectrum energy received from said image scene during illumination by said flash unit (Farrington, Col 7, Line 35 – 53 and Col 6 Line 55 – 68 to Col 7 Line 1 - 12).

Therefore it would have been obvious to one ordinary skilled in art at the time the invention was made to modify the photocell and exposure control system of Shimizu and Whiteside with the photocell and exposure control system as taught in Farrington where the photocell including a visible light photodetector 30 for sensing ambient light energy and an infrared photodetector 26 for sensing infrared light and wherein the exposure system uses said visible light photodetector 30 sense ambient light energy received from said image scene prior to illumination by said flash unit and to use said infrared photocell for sensing infrared spectrum energy received from said image scene during illumination by said flash unit. Therefore having separate photocells for shorter wave lengths (Visible Light) and for longer wavelength (infrared) and controlling the photocells accordingly would have the advantage of controlling duration of photographic exposure more effectively.

Regarding claim 5, Shimizu in view of Whiteside in further view of Farrington disclose the camera of claim 4, wherein said scanning aperture shutter includes separate apertures for said image capture device, said visible spectrum photocell and said infrared spectrum photocell (Farrington, Col 3, Line 15—68 to Col 4, Line 1- 4 and See Figure 1 scanning aperture 18 includes for example opening 24 is for visible light sensor and 28 is for non visible sensor and the scanning aperture 18 also includes an aperture for image capturing device).

Regarding claim 9, Claim 9 is rejected under claims 1, 4 and 5.

Regarding claim 10, Claim 10 is rejected under claims 1 – 4.

Regarding claim 13, the method of claim 13 is rejected under claim 12 the apparatus of claims 1 – 4.

Regarding claim 14, the method of claim 14 is rejected under claims 12 and 13 the apparatus of claims 1 – 4.

Regarding claim 15, the method of claim 15 is rejected under claim 12 and apparatus of claims 1, 4 and 5.

Regarding claim 20, Claim 20 is rejected under claim 17 and claims 1, 2, and 4.

Regarding claim 21, Claim 21 is rejected under claims 17 and 20 and claims 1, 2, and 4.

Regarding claim 25, Claim 25 is rejected under claim 24 and claims 1 and 4.

Regarding claim 26, Claim 26 is rejected under claims 24 and 25 and claims 1, 4, and 5.

6. Claims 6 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu (US 5,049,911) in view of Whiteside (US 2001/0031142 A1) in further view of Omura (US 5,943,515).

Regarding claim 6, the camera of claim 1, Shimizu in view of Whiteside disclose wherein said exposure control system is adapted to generate control signals for a flash unit (Whiteside Col 7 Line 65 – 68 to Col 8 Line 1 – 13)

Shimizu in view of Whiteside does not explicitly disclose the flash unit being a detachable flash unit.

Omura disclose a detachable flash unit (External flash unit Col 5 line 21 - 24)

Therefore it would have been obvious to one ordinary skilled in the art at the time invention was made to modify the flash unit of Shimizu and Whiteside with an external or detachable flash unit as taught in Omura. The motivation to do so is that an external flash offers much more versatility and power than a fixed position, built-in flash. External flash units provide increased flash range, more control of light direction, faster recycle times and they virtually eliminate red eye.

Regarding claim 22, Claim 22 is rejected under claim 17 and claims 1 and 6.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SELAM GEBRIEL whose telephone number is (571)270-1652. The examiner can normally be reached on Monday - Friday 8:30 - 5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571)272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

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Customer Service Representative or access to the automated information system, call
800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SELAM GEBRIEL/
Examiner, Art Unit 2622

Friday, November 06, 2009

/TUAN HO/
Primary Examiner, Art Unit 2622